

INTRODUCTION

From 1981 to 1983, the Centers for Disease Control and Prevention (CDC) funded a select number of states to conduct point-in-time prevalence surveys of behaviors that were associated with an increased risk of developing avoidable illness and/or premature death (i.e., behavioral risk factors). In 1984, the CDC established the Behavioral Risk Factor Surveillance System (BRFSS), an annual set of telephone surveys assessing the health status and behavioral risk factors of the adult population (18 years and older) within 15 participating states. The BRFSS began with four primary goals:

1. To document health trends at the state level;
2. To identify emerging health issues;
3. To compare health behaviors across states;
4. To measure progress toward health goals.

Through cooperative agreements between CDC and state departments of public health, the BRFSS expanded to include all 50 states, the District of Columbia, and three U.S. territories. BRFSS is now the largest continuously conducted telephone health survey in the world.

Montana has the distinction of having been one of the 15 states to participate in conducting point-in-time health surveys with CDC in the early 1980s and was one of the original states to secure funding from CDC when the BRFSS initiative began in 1984. The Montana BRFSS sample size has increased from 855 in 1984 to 7,618 in 2009. The number of questions included in the annual survey has increased from 45 questions in 1984 to 159 questions in 2009. Approximately 630 interviews were completed each month during the 2009 survey year. Subject areas include self-reported health status, access to health care, health awareness, use of preventive services, as well as knowledge and attitudes of health care and health-care practices.

The BRFSS survey provides valuable information on health trends, chronic disease risk and data for monitoring the effectiveness of policies, programs, and interventions. Additionally, BRFSS data are used to identify important health issues for future attention, formulate policies and legislation, and develop public awareness strategies. Each year modifiable behaviors such as smoking, excessive alcohol consumption, overweight, and physical inactivity contribute to a substantial portion of the mortality and morbidity associated with chronic disease and unintentional injury (McKenna et al., 1998; Mokdad et al, 2004). Underutilization of preventive health services (e.g., blood pressure, cholesterol, and cervical cancer screening) may also contribute to morbidity and premature death from many diseases (CDC, 2003a, 2003b). Measuring the prevalence of high risk behaviors and preventive health service utilization provides information for developing and monitoring interventions designed to reduce premature death and disease (CDC 2004). In 2009, seventy-four percent of Montana deaths were associated with chronic disease and unintentional injury (Table A).

Table A. Leading Causes of Death in Montana, 2009*

Rank	Cause of death	# of Deaths	% of total deaths ¹	Crude Rate per 100,000 ²	Risk Characteristics to Target Prevention
1	Cancer	1,909	21.9	195.8	Smoking, high-fat diet, chronic alcohol abuse
2	Heart disease	1,825	21.0	187.2	Smoking, physical inactivity, high blood pressure, high-fat diet, high blood cholesterol, overweight
3	Unintentional injury (Accidents)	612	7.0	62.8	Binge and chronic drinking, non-use of safety belts
4	Chronic lower respiratory diseases	595	6.8	61.0	Smoking, exposure to certain chemicals
5	Cerebrovascular disease (including stroke)	461	5.3	47.3	High blood pressure, smoking, high blood cholesterol
6	Alzheimer's disease	255	2.9	26.2	Head injuries
7	Diabetes	228	2.6	23.4	Overweight, physical inactivity, poor nutrition
8	Intentional Self-Harm (Suicide)	217	2.5	22.3	Depression, alcohol or substance abuse, major stressor events
9	Pneumonia and Influenza	177	2.0	18.2	Vaccine preventable infection with pneumococcal bacteria or influenza virus, compromised immune system
10	Chronic Liver Disease and Cirrhosis	138	1.6	14.2	Chronic alcohol abuse, Hepatitis B or Hepatitis C infection
Total deaths from leading causes		6,417	73.7		

* Mortality data are from e-mail correspondence with Bruce Schwartz, Montana Vital Statistics Bureau, Montana Department of Public Health and Human Services, December 16, 2010.

¹ Total deaths from all causes in 2009, excluding fetal deaths, were 8,704.

² Cause-specific crude death rates are per 100,000 estimated population.

The Healthy People 2010 (Public Health Service 2004) is an on-going national initiative driven by 467 objectives designed to serve as a road map for improving the health of all people in the United States during the first decade of the 21st century. Healthy People 2010 builds on similar initiatives pursued over the past two decades and national health objectives for Healthy People 2020 will be forthcoming in the near future. Two overarching goals—increase quality and years of healthy life and eliminate health disparities—serve as a guide for developing objectives that will actually measure progress. Data from the annual BRFSS survey are one of the primary means of monitoring progress towards achieving specific national year 2010 health objectives. Ten Leading Health Indicators (LHI) were chosen from all of these objectives based on their ability to motivate action for health promotion and disease prevention, the availability of data to measure their progress, and their relevance as broad public health issues. Table B summarizes Montana's progress toward Healthy People 2010 goals that were measured on the 2009 survey.

This report summarizes selected results from the 2009 BRFSS survey. Results were tabulated for the overall Montana population, as well as for subpopulations (sex, age class, education level, income class, race/ethnicity, disability status, and health planning region/MMSA). The numbers reported in the data tables were the actual numbers of respondents, while the prevalence estimates (expressed as percentages) were calculated using weighted data and are representative of the Montana adult population. As a measure of data precision, 95 percent confidence intervals (CI) were presented with the percentage prevalence estimates (see Methods section as follows for a more complete discussion). For the full question and response categories from which the data were derived see the "Questionnaires" link on www.brfss.mt.gov,

**Table B. Healthy People 2010 Objectives¹ for the Nation and Montana:
Summary of Montana BRFSS Data for 2009**

Healthy People 2010 ² Objective ³	Yr 2010 Target	MT 2009
Health Insurance (Objective #1.1)	100.0	82.5
Usual Primary Care Provider (Objective #1.5)	96.0	74.7
Limitation in Activities Due to Arthritis (Objective #2.2)	≤ 21.0	46.2 §
Diabetes, Clinically Diagnosed (Objective #5.3)	≤ 2.5	6.8
Cholesterol Screening, within Past Five Years (Objective #12.15)	≥ 80.0	72.0
Influenza Immunization, Within Past Year (Objective #14.29a) ⁴	≥ 90.0	68.7
Pneumococcal Pneumonia Vaccination, Ever Had (Objective #14.29b) ⁴	≥ 90.0	71.8
Obese, BMI ≥ 30 (Objective #19.2) ⁵	≤ 15.0	23.7
Reduce Proportion of adults with High Blood Pressure	≤ 16.0	27.7
No Leisure Time Physical Activity (Objective # 22.1)	≤ 20.0	22.0
Regular, Moderate Physical Activity, 3 or more Days a Week for 20 or more Minutes a Day (Objective #22.2)	≥ 30.0	47.6 ✓
Regular, Vigorous Physical Activity, 3 or more Days a Week for 20 or more Minutes a Day (Objective #22.3)	≥ 30.0	36.3 ✓
Binge Drinking, During the Past Month (Objective #26.11c)	≤ 6.0	17.3
Cigarette Smoking (Objective #27.1a)	≤ 12.0	16.8

¹ Objectives are for adults age 18 or older except as noted.

² Public Health Service. Healthy People 2010: National Health Promotion and Disease Prevention Objectives—full report with commentary. Washington, DC: U.S. Department of Health and Human Services, 2000.

³ In some cases, BRFSS definitions of objectives differ slightly from those in Healthy People 2010. See Healthy People 2010 for the exact definition of the objective.

⁴ Among Adults Ages 65 years or older.

⁵ Healthy People Obesity Objective is for Adults Ages 20 years or older.

§ The 2009 estimate cannot be compared to previous year estimates due to a change in the questionnaire.

✓ Met Healthy People 2010 Objectives.